Geographic Information Systems Transforming The Map Transforming Defense

Presentation to the Army ITAM Conference

27 August, 2001

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Director, Enterprise Solutions

The IT Revolution: Mission Implications

Mission Conforms to IT

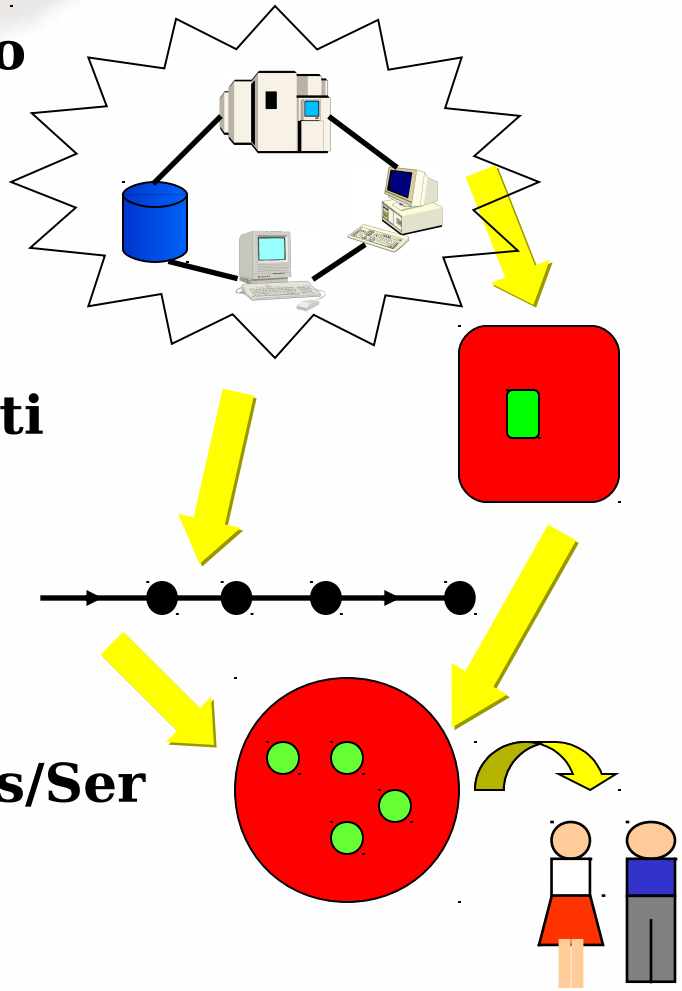
Technology

Information

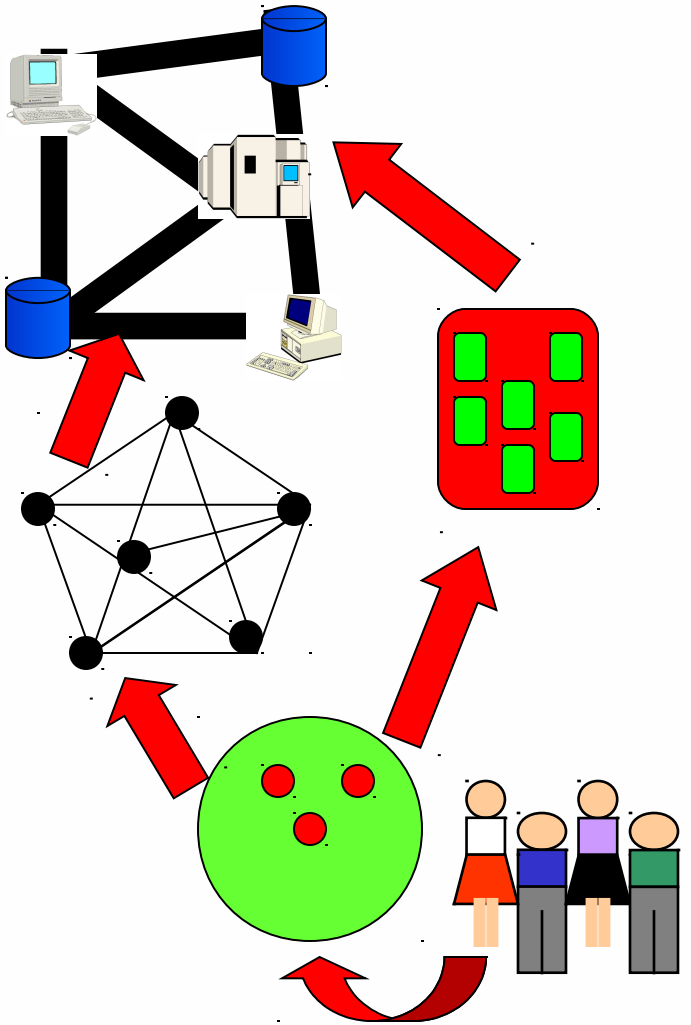
Workflow

Products/Services

Users

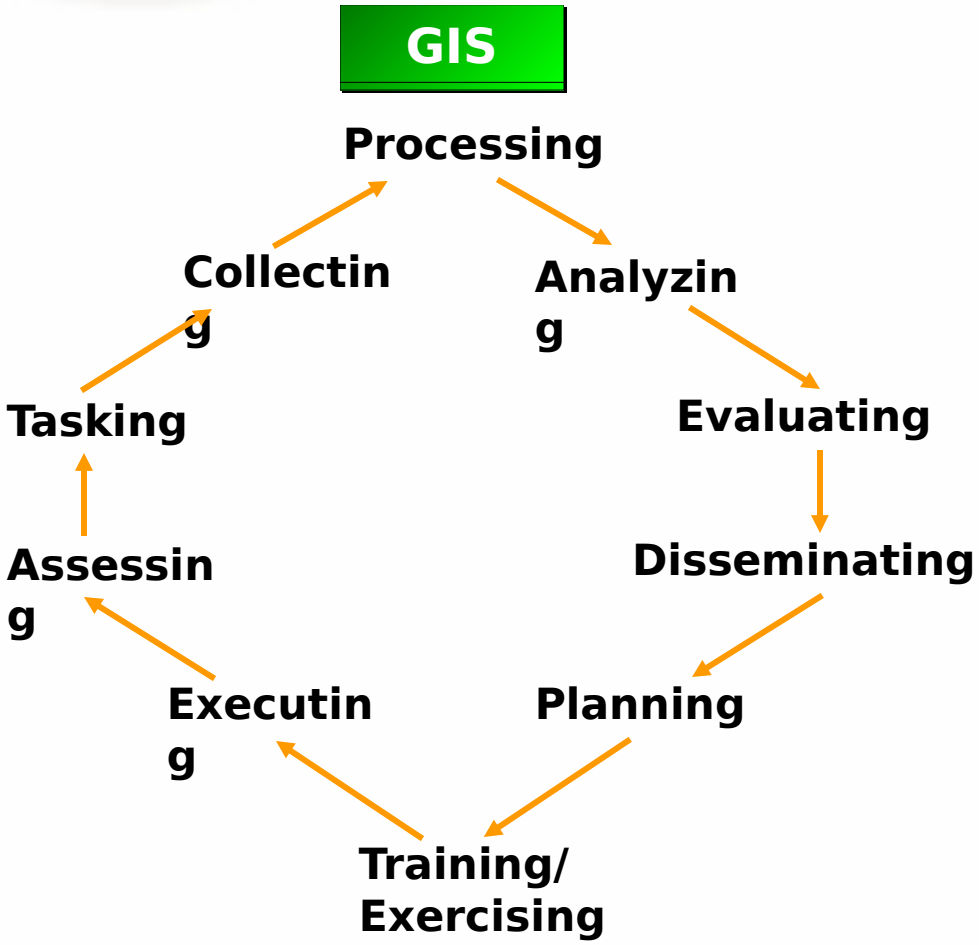


IT Conforms To Mission



GIS Then: "Dedicated, Niche"

IT Constraining

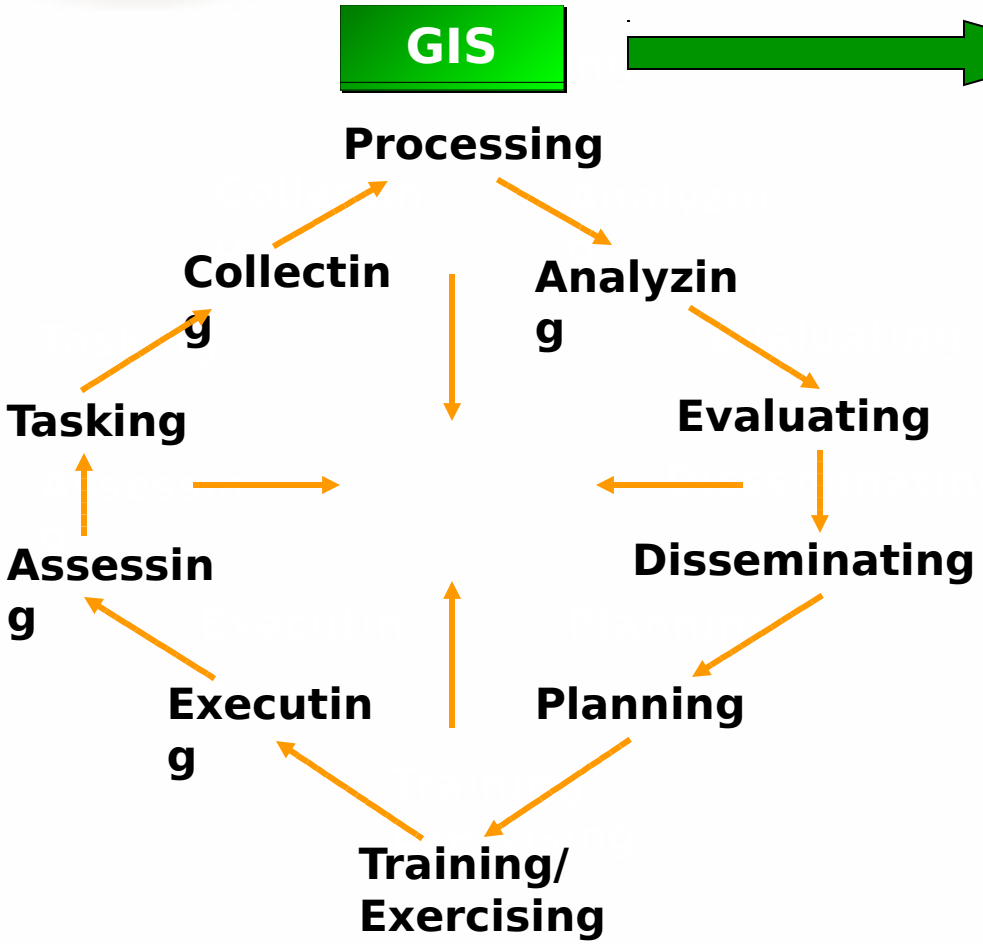


Enterprise Knowledge Management and Decision Support

Space and time: ad hoc consideration

GIS Now: Integrated, Mainstream

IT Enabling

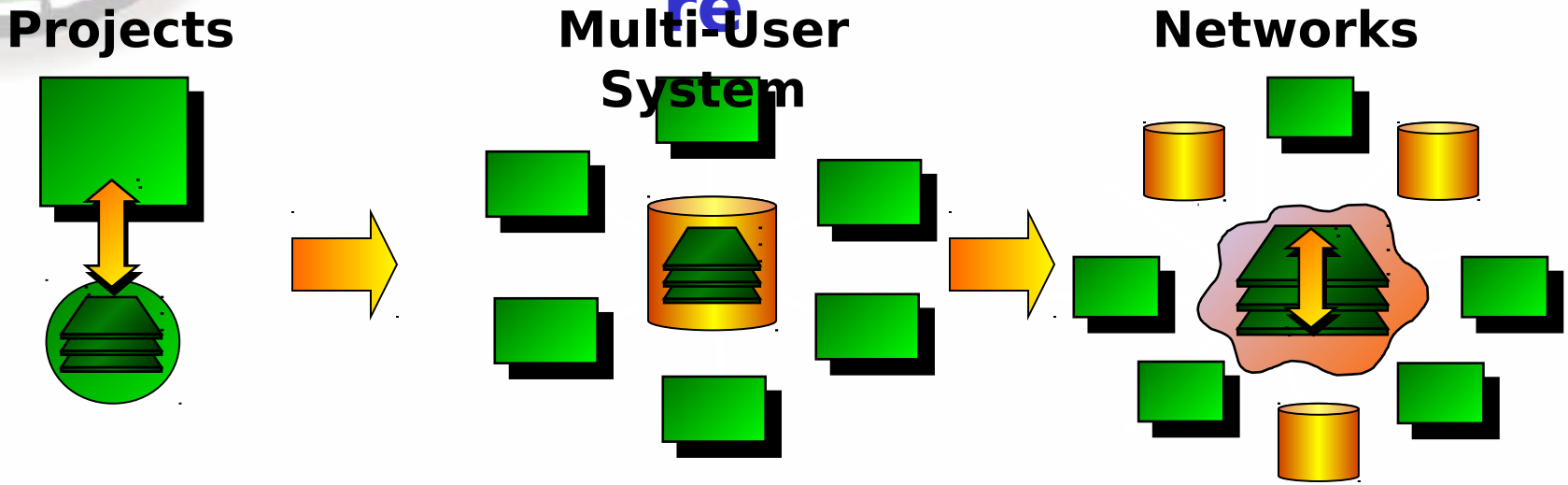


Enterprise Knowledge Management and Decision Support

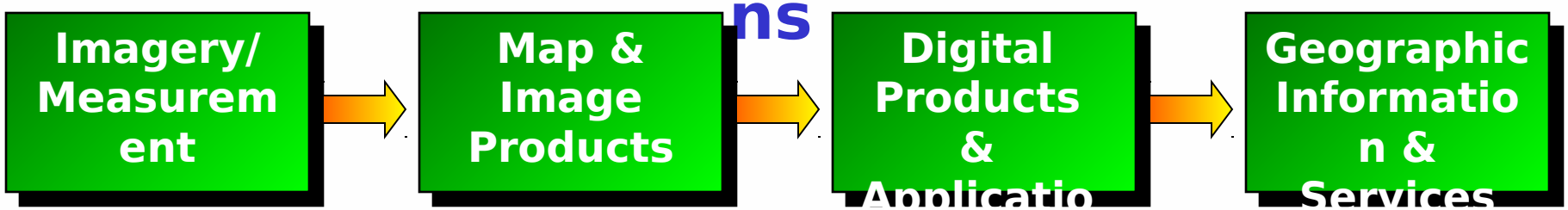
Space and time: embedded in analysis and decision making

Evolution in GIS

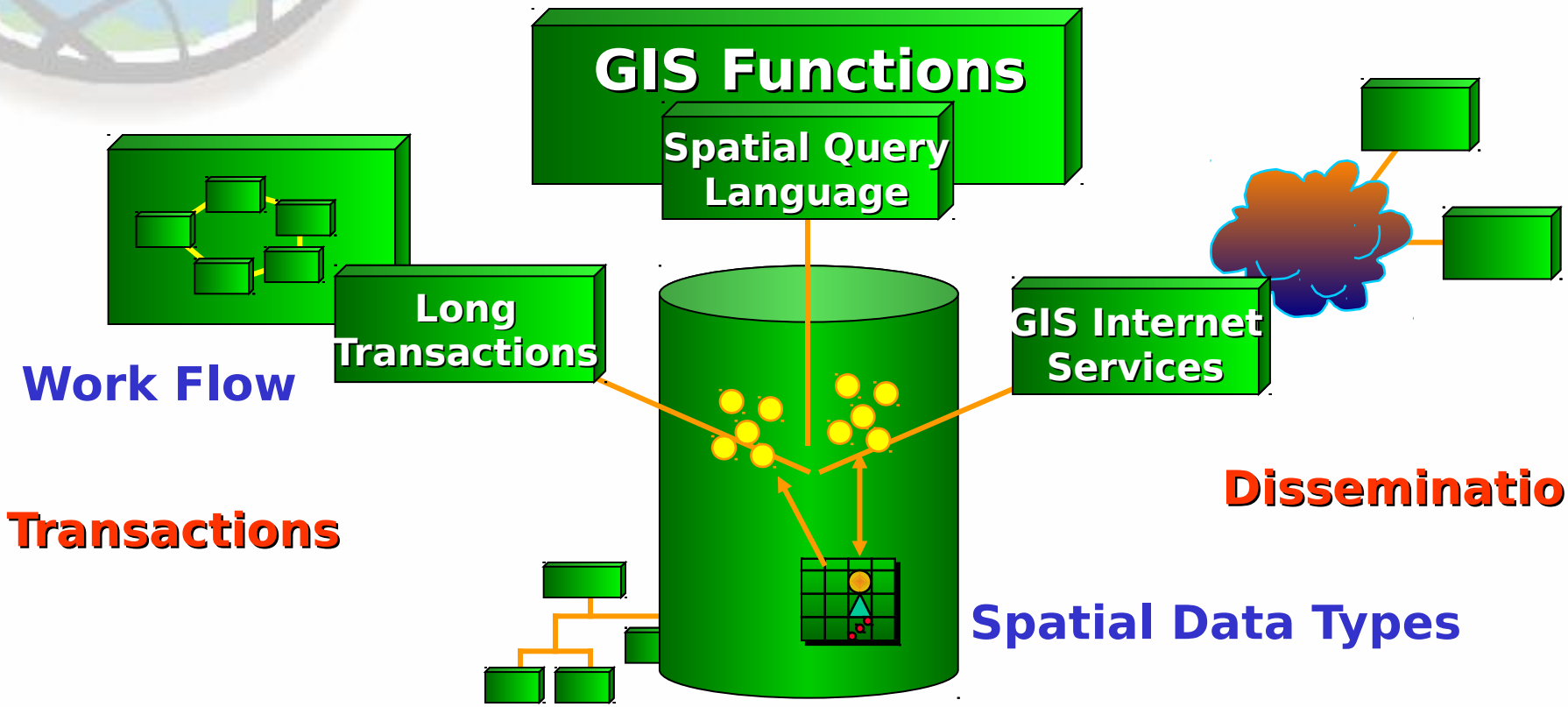
Architecture



Applications



Data Centric Architecture



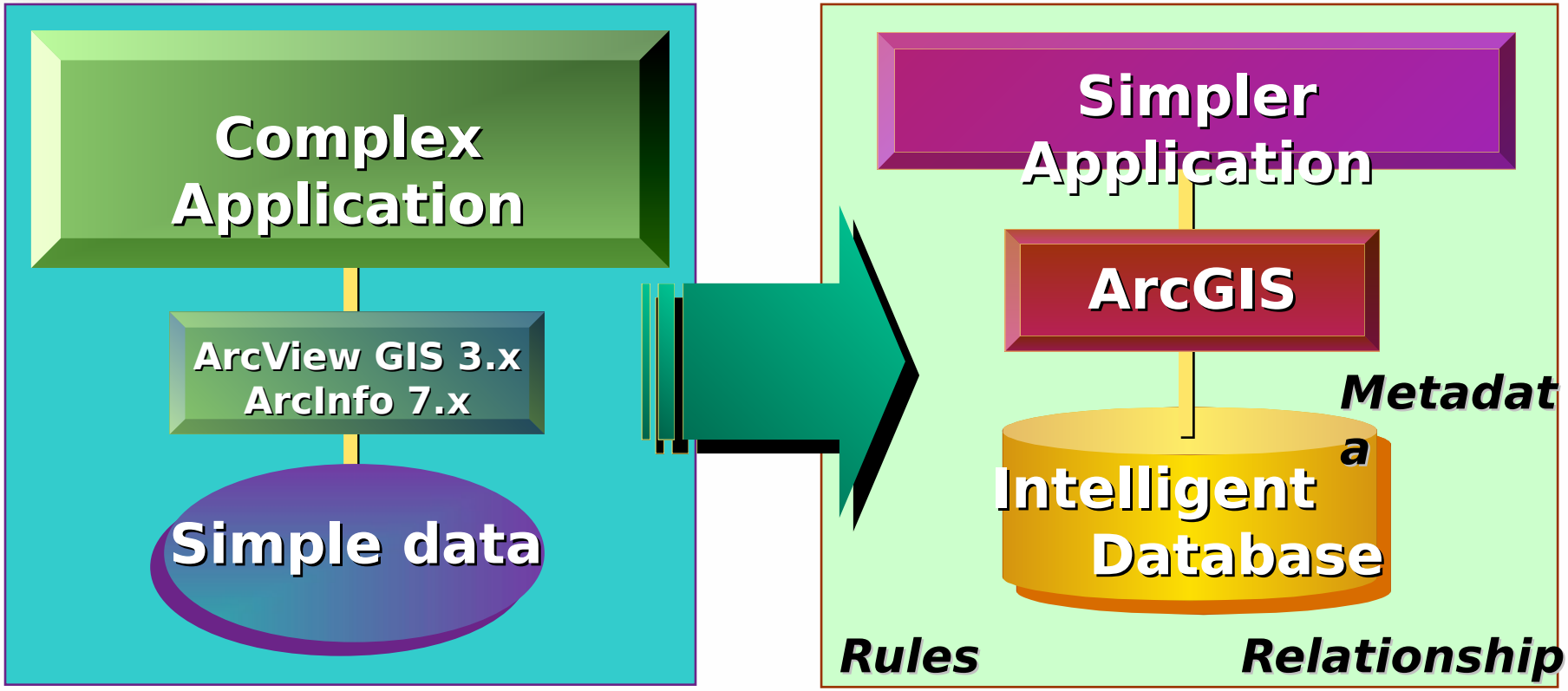
Scalable, High Performance, Multi-User Environment (DBMS

The Geodatabase

- **Centralized Management of Geographic Information in a DBMS**
  - Vector, Raster, Table, Address, Annotation, Relationships, CAD
- **Continuous Data Structure**
- **Supports Versioning**
  - Concurrent Multiuser Editing
  - Transactional Views
- **Create Custom or Intelligent Features**

Geodatabase Model

Implications



Intelligent Data Means Less Application Development

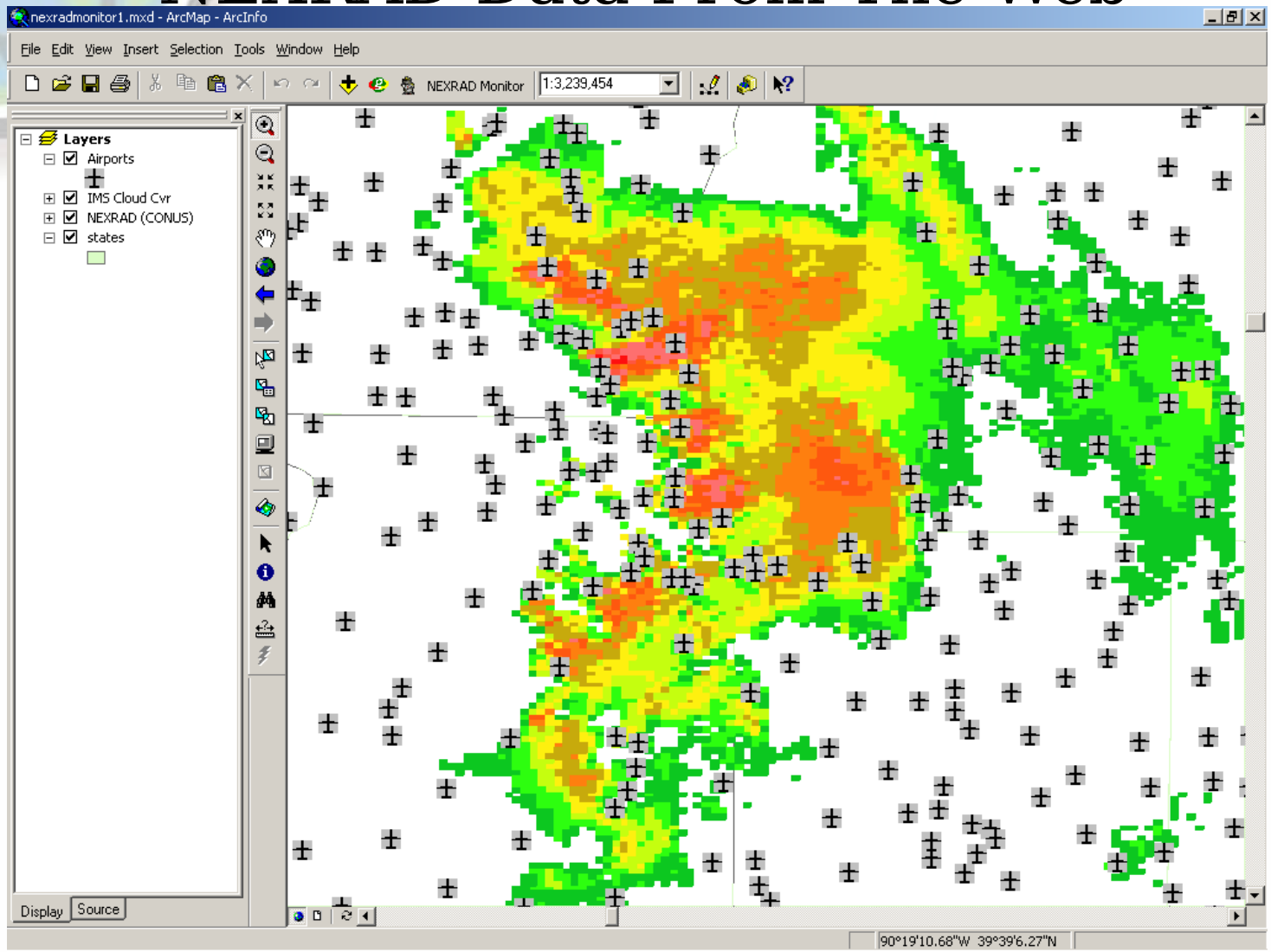
GIS Transformation: Implications for Defense

Custom, Current, Relevant

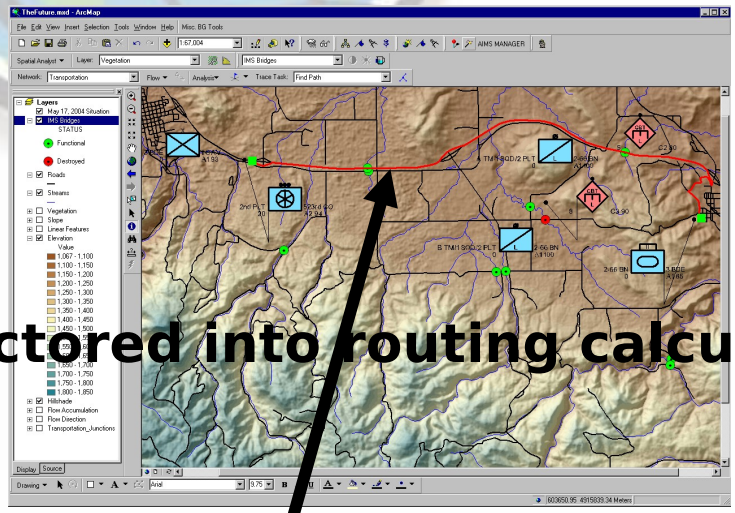
Multiple Source		**Data Fusion**
Paper maps		**Maps on Demand**
Library Resour		**Command Center Tool**
Simple Visualization		**Power Analysis**
Fixed Support		**Mobile Operations**

Data Fusion, Dynamic Update

NEXRAD Data From The Web



Enterprise Distributed Real-Time GIS



ctored into routing calculation

Bridge Demolished

Serve d over the Intern et

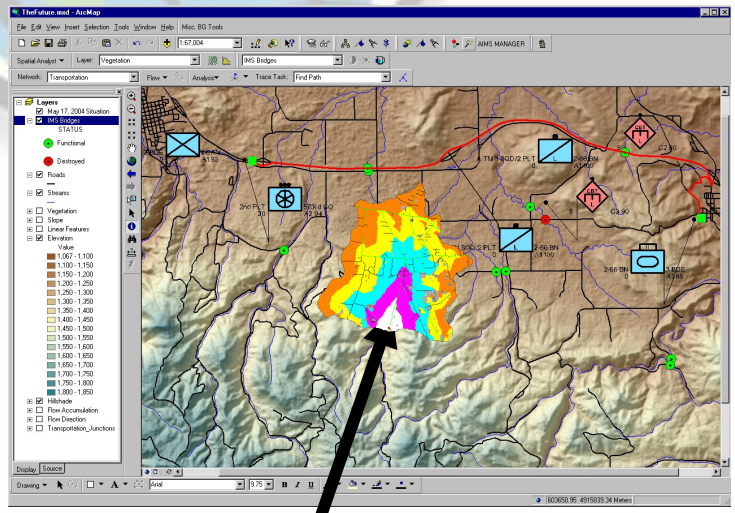
Transmitted From GIS Server

Transmitted To GIS Server

Change Recorded

GIS Data Server

Enterprise Distributed Real-Time GIS



TEL Spotted

New Data Created

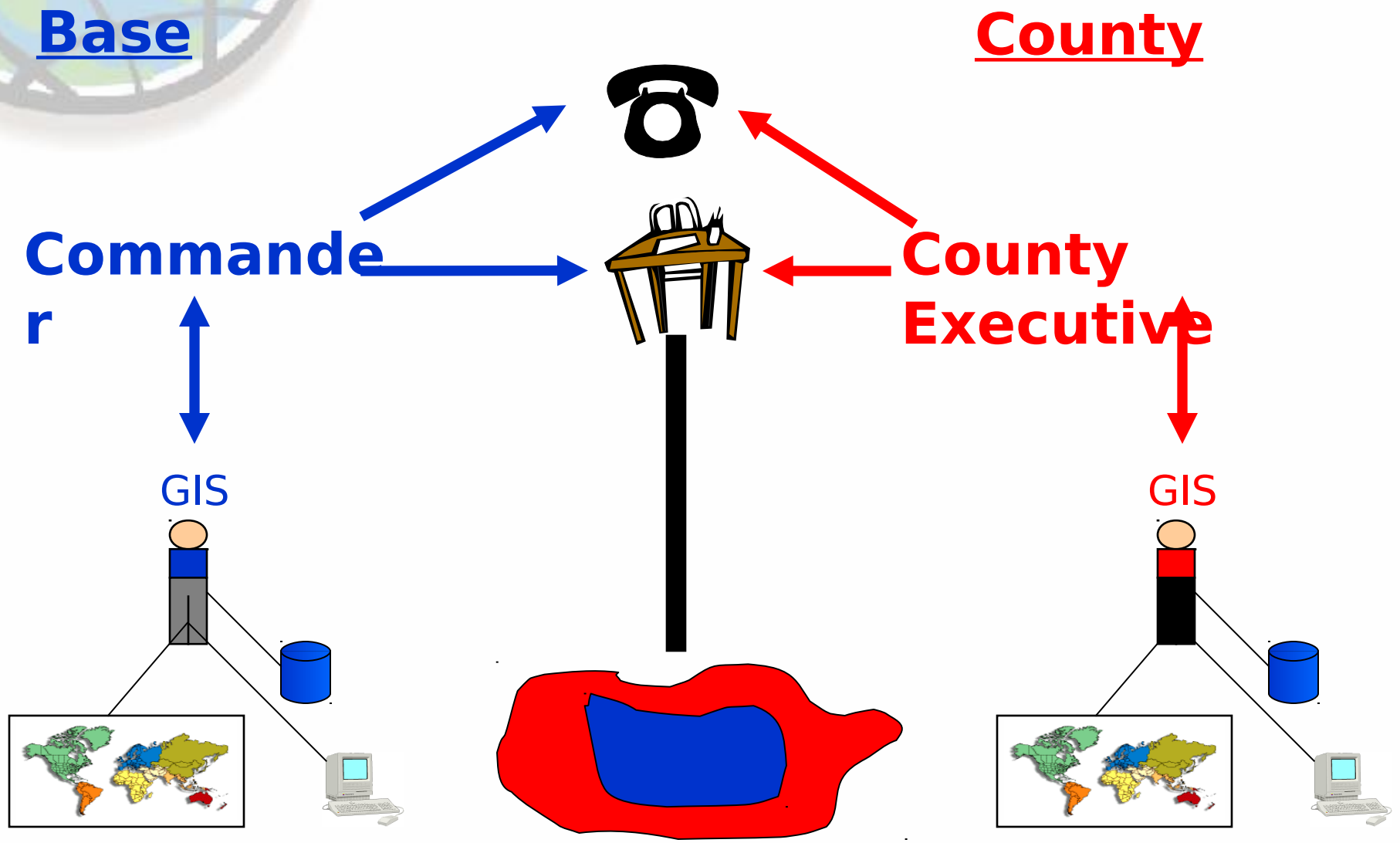
Transmitted To GIS Server

GIS Data Server

GIS Engine

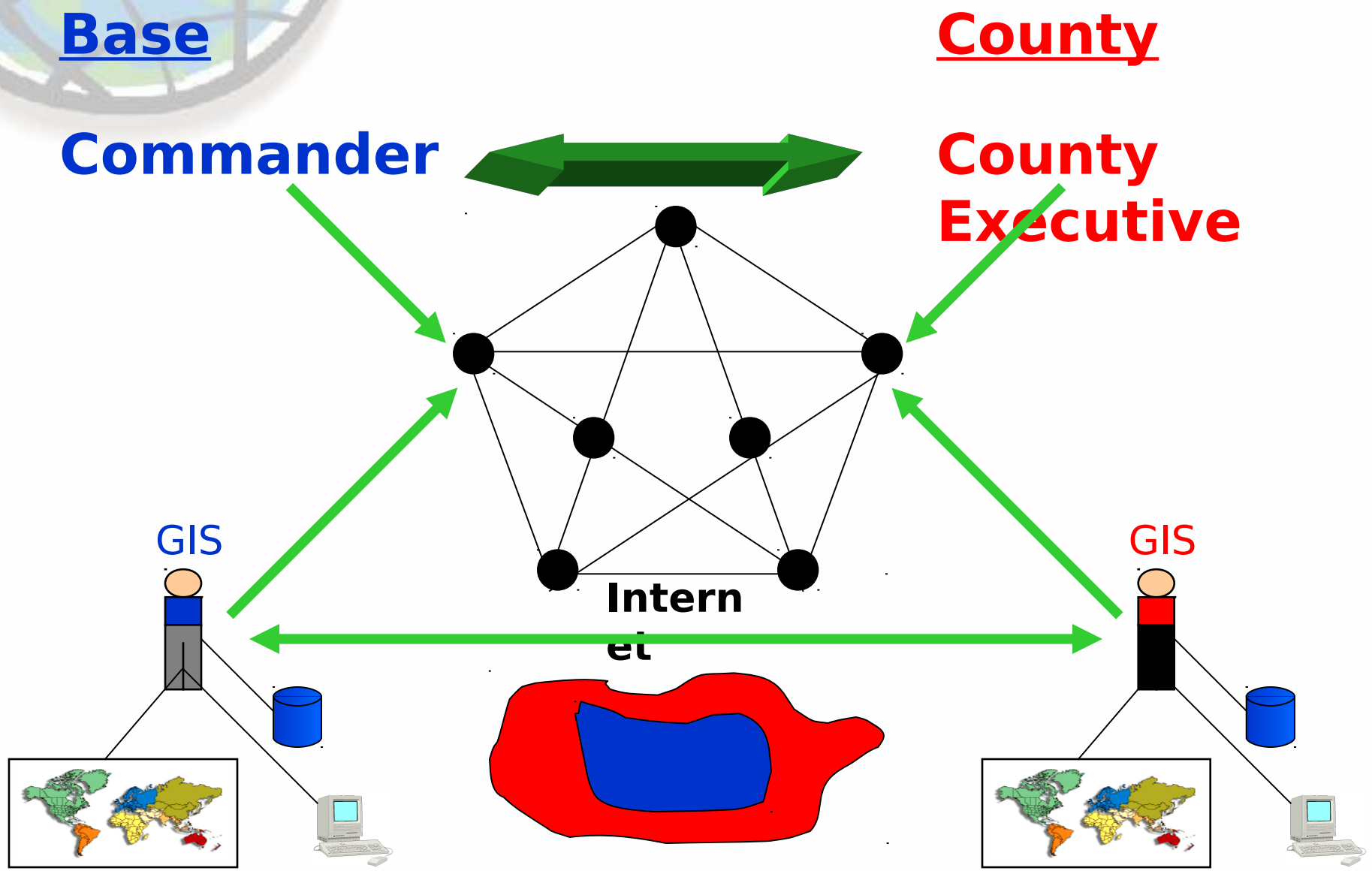
Building New Communities

Base Management: Then



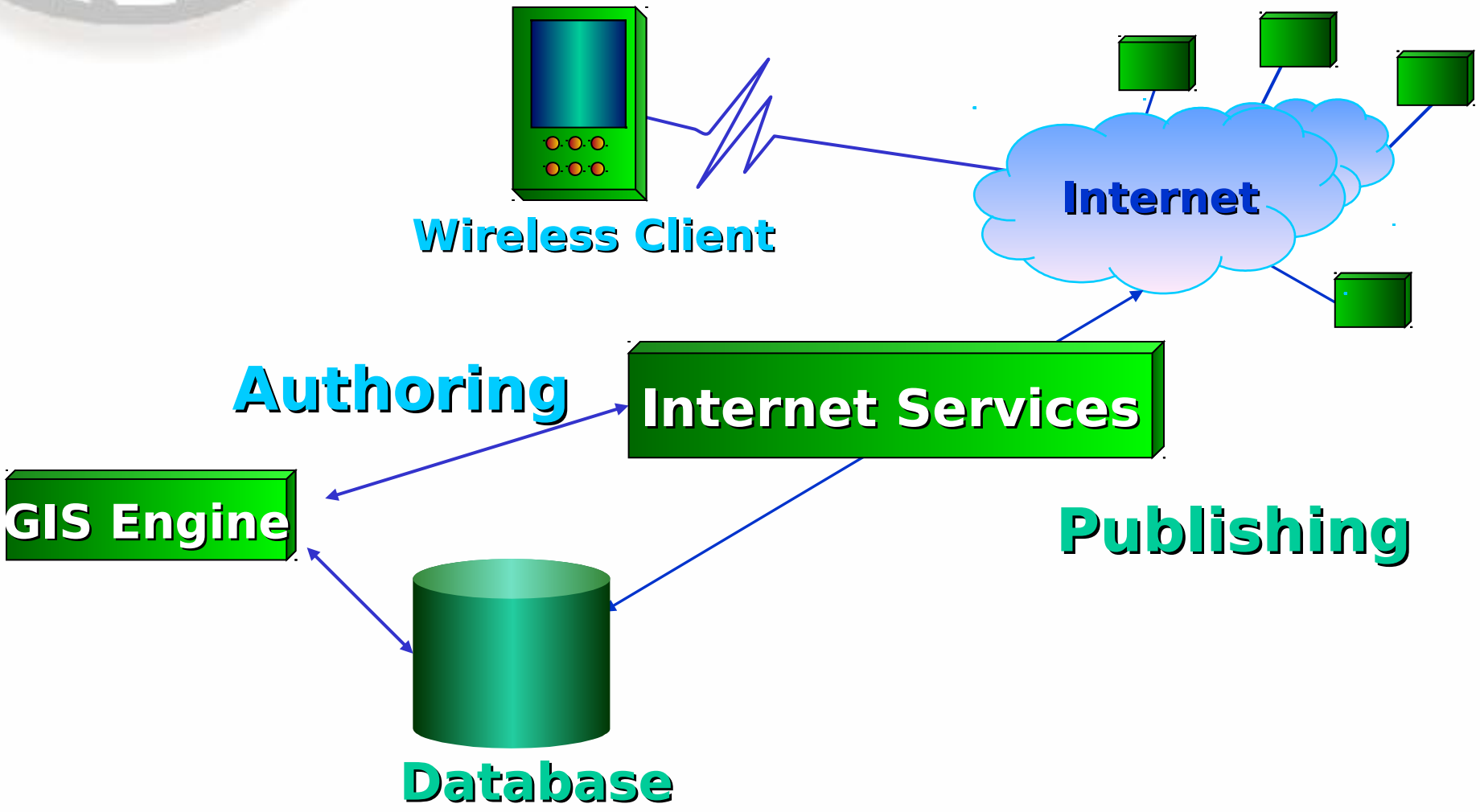
Building New Communities

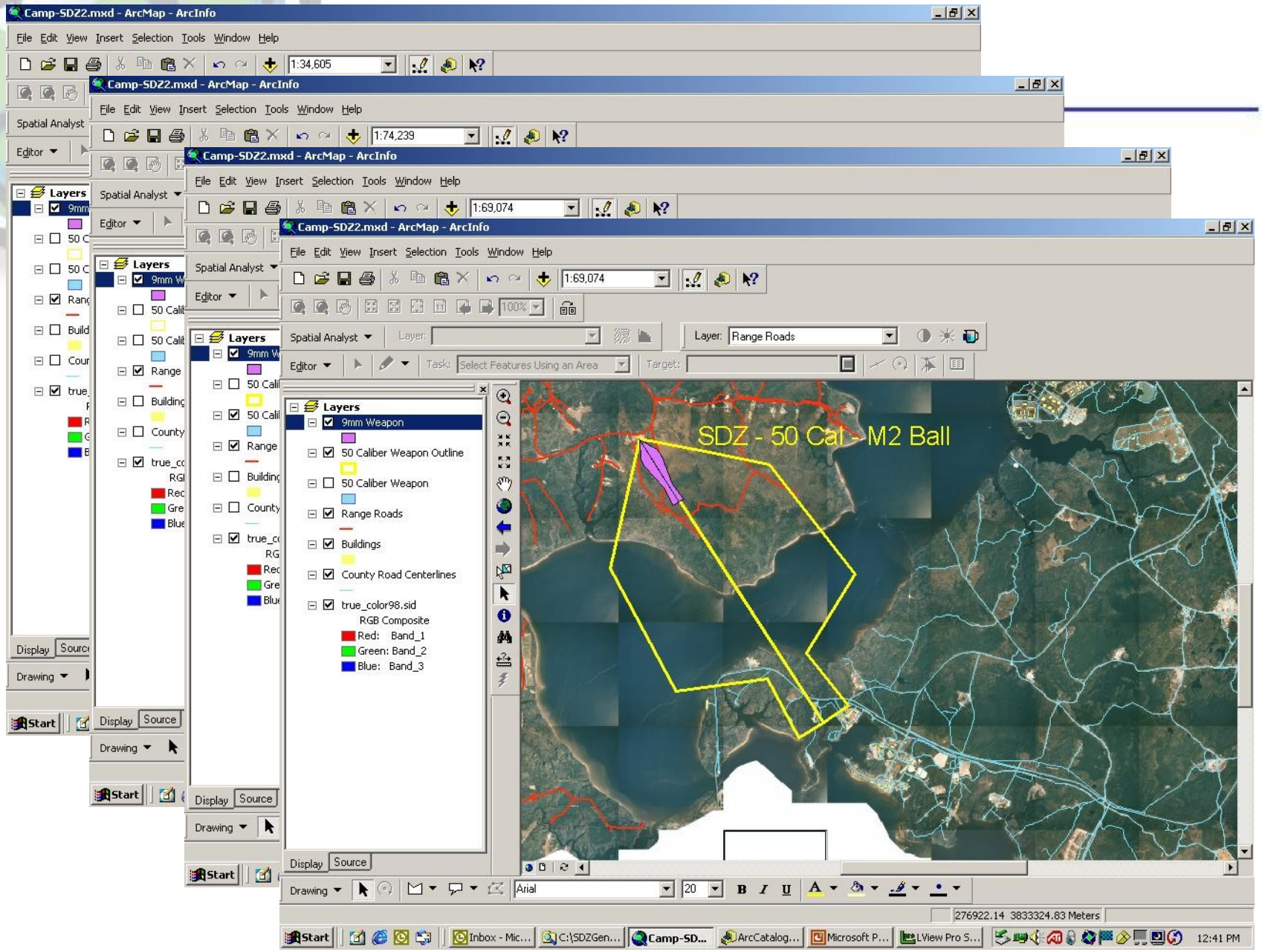
Base Management: Now



Building New Communities Base Management

Real Time, Collaborative Support With Internet at GIS Services

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File Edit View Insert Selection Tools Window Help
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Layers
9mm Weapon
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50 Caliber Weapon
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Buildings
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Green: Band_2
Blue: Band_3
Layer: Range Roads
Task: Select Features Using an Area
Target:
SDZ - 50 Cal - M2 Ball
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Start
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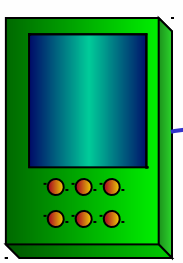
The results are create
by the GIS Engine, and
the results sent to the
wireless client in the f
for real-time results…



Wireless Client

New Capabilities → New Challenges

There is no free lunch

Do	Don't
Serve Mission	Serve Technology
Reengineer Business Process	Pave Cow Paths
Balance Collaboration and Command & Control	Create a Free-for-All
Build Data-Centric	Build System-Centric
Build A Strong Information Management Regime—Quality Control, Certification Accountability, Access Management	Build a Nebulous Information Cloud
Deliver enterprise/workgroup solutions, including training and supports	Introduce applications piecemeal, with minimal training and support